

Deliverable 3

Annexes to Diagnostic Report

TSIC-RoC-19846

REFORM/2021/OP/0006 Lot 1

June 2024



Assignment was carried out with funding by the European Union via the Structural Reform Support Programme and in cooperation with the Directorate General for Structural Reform Support of the European Commission

Annex 1: List of 36 analysed NACE sectors

Table 1: List of 36 sectors based on the methodology mentioned in the chapter 2.6.

Rank	Sector
1	H49 (Land transport and transport via pipelines)
2	D (Electricity, gas, steam, and air conditioning supply)
3	C29 (Manufacture of motor vehicles, trailers, and semi-trailers)
4	A01 (Crop and animal production, hunting, and related service activities)
5	F (Construction)
6	B (Mining and quarrying)
7	C25 (Manufacture of fabricated metal products, except machinery and equipment)
8	C10-C12 (Manufacture of food products; beverages and tobacco products)
9	H52 (Warehousing and support activities for transportation)
10	C28 (Manufacture of machinery and equipment new)
11	G46 (Wholesale trade, except of motor vehicles and motorcycles)
12	E37-E39 (Sewerage, waste management, remediation activities)
13	O (Public administration and defence; compulsory social security)
14	P (Education)



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15	C27 (Manufacture of electrical equipment)
16	G47 (Retail trade, except of motor vehicles and motorcycles)
17	E36 (Water collection, treatment, and supply)
18	Q86 (Human health activities)
19	C22 (Manufacture of rubber and plastic products)
20	C23 (Manufacture of other non-metallic mineral products)
21	A02 (Forestry and logging)
22	C20 (Manufacture of chemicals and chemical products)
23	C24 (Manufacturing of basic metals)
24	J62_J63 (Computer programming, consultancy, and information service activities)
25	L68A (Imputed rents of owner-occupied dwellings)
26	C19 (Manufacture of coke and refined petroleum products)
27	C17 (Manufacture of paper and paper products)
28	I (Accommodation and food service activities)
29	C26 (Manufacture of computer, electronic and optical products)
30	N80-N82 (Security and investigation, service and landscape, office administrative and support activities)
31	K64 (Financial service activities, except insurance and pension funding)



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32	C33 (Repair and installation of machinery and equipment)
33	Q87_Q88 (Residential care activities and social work activities without accommodation)
34	M69_M70 (Legal and accounting activities; activities of head offices; management consultancy activities)
35	H53 (Postal and courier activities)
36	G45 (Wholesale and retail trade and repair of motor vehicles and motorcycles)



Annex 2: Description of the TIMES-CZ model (version v02+)

TIMES-CZ (version v02+) taken from the document Analysis of FIT FOR 55: Assessment of impacts on the Czech Republic, is an energetic, technology-oriented, dynamic model using the TIM model generators (The Integrated MARKAL-EFOM System) developed within the Energy Technology Systems Analysis Program (ETSAP) in the International Energy Agency (IEA).

The TIMES-CZ model seeks **the optimal solution of the total energy and technological mix**, which satisfies the given (exogenous) demand for energy and energy services while achieving **the lowest possible total discounted costs** for the entire analysed period.

TIMES-CZ includes the entire energy balance of the Czech Republic, from primary sources to the final consumption of energy services. The starting year of the model is 2015 and the modelling horizon is 2050.

Model inputs - exogenous model inputs can be divided into 4 categories:

- Parameters of existing and new technologies (e.g., efficiency, lifetime, emission factors, operating and investment costs, installed capacity);
- Fuel prices, emission allowances and the amount of tax rates, including assumptions about their future development;
- Demand for energy services (passenger kilometres, thermal comfort, etc.) and industrial products (tons of iron, cement, etc.) and their development
- Availability of domestic fossil and renewable primary energy sources.

The basic data input of the model for the starting year 2015 is the energy balance of Eurostat. Other important data sources are Emission Reports of the EU ETS system, the REZZO database (Register of Emissions and Sources of Air Pollution) and data from the Energy Regulatory Office.

Assumptions about the prices of fuels and emission allowances, together with the expected demands and taxes, form the individual scenarios of the model.

Model outputs – typical outputs of the TIMES-CZ model are:

- Installed technology capacities.
- Consumption of primary and secondary fuels
- Electricity and heat produced.
- Emissions of greenhouse gases and air pollutants
- Costs (investment, fuel, operating, etc.)

Model structure

The TIMES-CZ model is divided into seven energy sectors, according to the predominant nature of the technologies and processes involved. Each energy sector including sources included in the EU ETS system is divided into *ETS* and *non-ETS* parts, where the *ETS* part is modelled at the level of individual sources.

- *The primary* sector includes the energy chain of primary energy sources, including possible imports and exports. Each primary energy source (oil, natural gas, brown and black coal, etc.) is modelled by a supply curve with several cost stages. Biofuels and waste are divided into 5 types: wood, biogas, municipal waste, industrial waste, and liquid biofuels.
- *The Electricity and Heat Production* sector includes public power plants, heating plants, renewable sources of electricity and heat. It is largely made up of individual sources included in the EU ETS system. In addition to biomass and biogas plants, renewable sources for electricity production are aggregated in the model according to technology (Water energy plant, wind energy, solar energy).
 - Produced electricity is differentiated according to voltage into High, Medium, and Low voltage and losses in networks are taken into account.
 - High-temperature systems for heat supply are differentiated by region and connected to the relevant sources in the given region.
- *The industry* is divided into two levels.

Industrial resources are divided into individual areas of production with an emphasis on identifying energy-intensive industries. In each energy-intensive industry, demand is made up of specific physical commodities (steel, copper, aluminium, cement, lime, glass, ammonia, chlorine, paper, and food and tobacco).

"Technological unit" is defined differently for sources included in the EU ETS system and sources outside this system.

- For EU ETS sources, the "technological unit" is defined by the entire installation as defined by the EU ETS. For example, Železářny Vítkovice is included in the model as a whole, without distinguishing its individual technological processes (ore processing, blast furnace, rolling mill).
 - For sources outside the EU ETS and for new technologies (the remaining part of individual industries according to the energy balance), the "technological unit" is, on the other hand, defined by its individual processes, for example, in the case of an ironworks, blast furnace, or processing and rolling mill are distinguished. Sources outside the EU ETS are therefore modelled aggregated according to the type of production (e.g., ammonia, chlorine, non-ferrous metals). However, each production is internally divided into individual processes, which are based on the TIMES-PanEU model. **Energy-intensive industries** have a defined specific structure of the "technological unit" - for example, in paper production, are distinguished. The remaining non-energy-intensive industries have a standard structure consisting of 5 main uses of *steam energy, technological heat, machine drive, electrochemical, and other processes*), which is also based on the TIMES-PanEU model.
- In the sector on the demand side, the household has 11 final energy services (Heating, Air conditioning, Water heating, Cooking, Lighting, Food cooling and freezing, Laundry, Clothes drying, Dishwashing, Other electricity, Other energy), while Heating, Air conditioning, Water heating are

further differentiated by building category (Family house - rural, Family house - city, Apartment house).

For each final energy service, the model includes several available technologies (existing and new) through which the given service is provided (in connection with the energy carrier - electricity, heat, etc.). For example, heating technologies distinguish emission classes of solid fuel boilers, and the model takes into account legislation regulating the sale and use of boilers of individual emission classes.

- *The commercial* sector requires 9 final energy services (Heating, Air conditioning, Water heating, Cooking, Refrigeration and freezing of food, Lighting, Public lighting, other electricity, other energy), whereby Heating, Air conditioning, Water heating are differentiated according to the size of the building (Small, Large).

Similar to the Household sector, for each final energy service in the model there are several available technologies (existing and new) that enable the service to be fulfilled. Heating, air conditioning and water heating are differentiated according to the size of the building (Small, Large).

- *Transport* is divided into passenger and freight road, passenger, and freight rail, water, and air transport.
 - Passenger road transport is further divided into 5 categories (cars - short distance, cars - long distance, city and intercity buses, others).
 - Road freight transport
 - Railway transport is divided into passenger - light (metro and trams), passenger - heavy and freight.
 - Air and water transport are modelled as a generic technology with demand corresponding to fuel consumption.

Demand consists of transport performance in individual categories (vehicle kilometres, tonne kilometres). The detailed traffic module TRAN is incorporated into the TIMES-CZ model. In the base year, the module contains 135 technologies for road vehicles according to age and COPERT category [\[19\]](#). Technologies for future years include both new and used vehicles. The TRAN module also includes the production of biofuels.

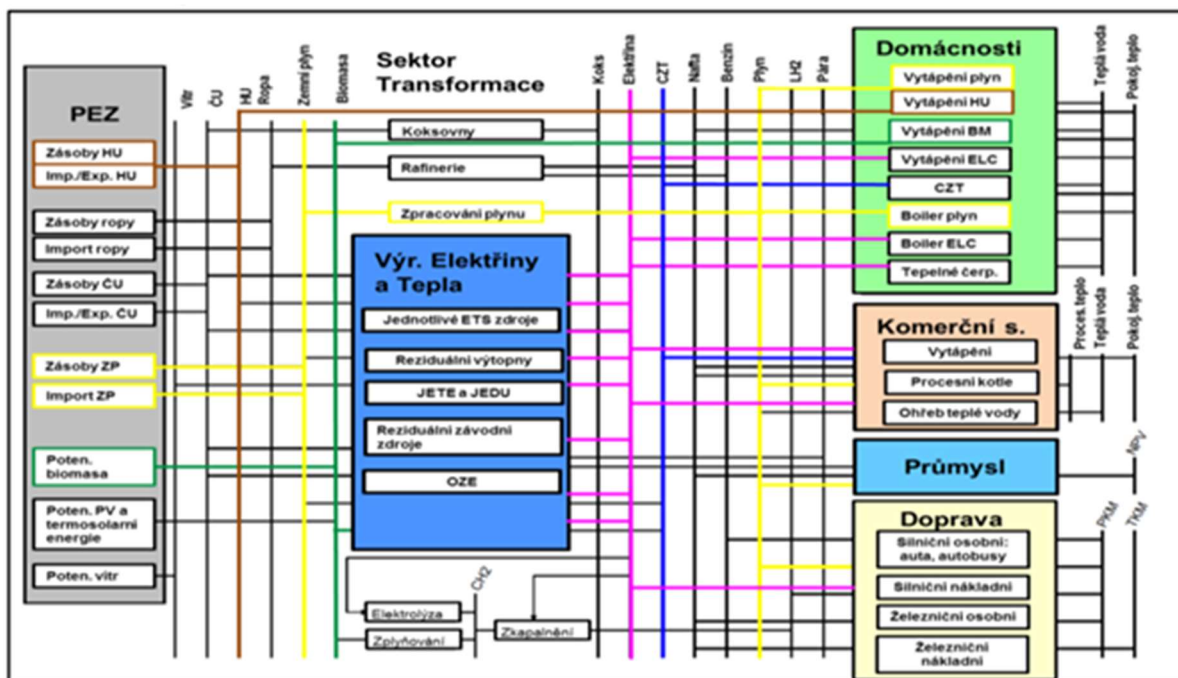
- *Agriculture* is modelled simply from the point of view of energy consumption as a generic technology with aggregated input fuel mix and aggregated output energy consumption.

The TIMES-CZ model includes emissions of greenhouse gases, nitrogen oxides, sulphur dioxide and emissions of solid substances associated with the consumption of fossil fuels and industrial processes. The quantification of environmental externalities from emitted emissions is based on the connection with the analysis of impact paths according to the ExternE methodology [1].

The figure below shows the simplified structure of the reference energy system (RES) of the TIMES-CZ model from primary sources to the final consumption of energy services such as hot water or passenger kilometres travelled. A full description of the TIMES model generator and its objective function is provided in the documentation for the TIMES model [2–4].

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Figure 1: Structure of TIMES (only in Czech language)



Source: SEEPIA, Impact Analysis FF 55

Technical and economic assumptions about new technologies

Assumptions about new technologies are taken from the TIMES PanEU [5] and JRC-EU-TIMES [6] models with the following exceptions:

- Estimated investment costs of PVE and WE [€2015/kWp]

Table 2: Investment costs of PVE and WE

	2020	2025	2030	2035	2040	2045	2050
PVE residential	1398	1176	1103	915	760	630	523
PVE large scale	770	649	601	499	424	343	285
PVE industrial	1015	852	793	658	546	453	376
WE	1917	1964	1812	1776	1208	1196	1184

Source: SEEPIA, Alliance for Energy Self-Sufficiency, IEA World Energy Outlook – World Energy Model, October 2020

- The investment costs of new nuclear sources are estimated at 6317 € per kW. These investment costs are derived from the costs of the Hinkley Point C nuclear power plant.

- The TIMES-CZ model includes costs for the development of the distribution and transmission system only in a simplified manner. In the case of PVE, the costs of network expansion are assumed in five bands:

Table 3: Network expansion costs)

	Network expansion costs (EUR/kW with respect to generated electricity)	Electricity production (TWh)
I	97,5	2,7-8,8
II	195	8,8-17,6
III	400	17,6-33,5
IV	405	33,5-53,9
V	410	over 53,9

Source: SEEPIA

Sources cited in the appendix:

1. ŠČASNÝ, M., MASSETTI, E., MELICHAR, J., & CARRARA, S. (2015). Quantifying the Ancillary Benefits of the Representative Concentration Pathways on Air Quality in Europe. *Environmental and Resource Economics*, 62(2), 383–415. <https://doi.org/10.1007/s10640-015-9969-y>
2. LOULOU, Richard, Uwe REMNE, Amit KANUDIA, Antti LEHTILÄ, and Gary GOLDSTEIN. Documentation for the TIMES Model PART II [online]. 2005. Available from: <http://ieaetsap.org/index.php/documentation>
3. LOULOU, Richard, Uwe REMNE, Amit KANUDIA, Antti LEHTILÄ, and Gary GOLDSTEIN. Documentation for the TIMES Model PART III [online]. 2005. Available from: <http://ieaetsap.org/index.php/documentation>
4. LOULOU, Richard, Uwe REMNE, Amit KANUDIA, Antti LEHTILÄ, and Gary GOLDSTEIN. Documentation for the TIMES Model PART I [online]. 2005. Available from: <http://ieaetsap.org/index.php/documentation>
5. Capros, P., Paroussos, L., Fragkos, P., Tsani, S., Boitier, B., Wagner, F., ... Bollen, J. (2014). Description of models and scenarios used to assess European decarbonisation pathways. *Energy Strategy Reviews*, 2(3–4), 220–230. <https://doi.org/10.1016/j.esr.2013.12.008>
6. Nijs, W., & Ruiz, P. (2019). 01_JRC-EU-TIMES Full model. European Commission. Retrieved from pid: <http://data.europa.eu/89h/8141a398-41a8-42fa-81a4-5b825a51761b>
7. https://ec.europa.eu/eurostat/databrowser/view/nama_10_a64/default/table?lang=en ↑
8. https://apl.czso.cz/pll/rocnka/rocnkaout.dod_uziti?mylang=CZ ↑
9. https://ec.europa.eu/eurostat/databrowser/view/ENV_AC_AINAH_R2/default/table?lang=en ↑
10. <https://www.czso.cz/csu/czso/spotreba-paliv-a-energie-2022> ↑



11. <https://www.eea.europa.eu/en/analysis/indicators/greenhouse-gas-emission-intensity-of-1?activeAccordion=ecdb3bcf-bbe9-4978-b5cf-0b136399d9f8> ↑
12. https://www.volker-quaschning.de/datserv/CO2-spez/index_e.php ↑
13. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3716203 ↑
14. <https://link.springer.com/article/10.1007/s10640-022-00660-7> ↑
15. For clarification, we add that NACE code C20 (Manufacture of chemical substances and chemical preparations) ranked 22nd according to the described score, and NACE code C23 (Manufacture of other non-metallic mineral products) ranked 20th. ↑
16. For determination, we followed the EU taxonomy navigator here: EU Taxonomy Compass (europa.eu) ↑
17. Which, however, turns out to be relatively negligible in the model, because the very high investments taking place in the WEM scenario are not transferred to the WAM scenario. ↑
18. Center for socio-economic research on the impact of environmental policies - <https://seepia.cz/> ↑
19. A more detailed technical description of the TIMES-CZ model (taken from the document Impact Analysis FF 55 carried out by the SEEPIA consortium). ↑
20. All constraints below set the maximum available (PFE, VtE, energy savings, imports) or the required minimum (new nuclear sources), with the final amount of energy sources and energy savings determined by the TIMES model based on cost optimization; the resulting optimal mix of installed capacities determined by the TIMES model is an (exogenous) input to the PLEXOS and E3ME models; the final energy consumption is given by the assumptions of the fulfillment of energy services and the assumptions of the development of the economy and is modeled through optimization (i.e. it is fulfilled either by new energy sources, energy savings or imports). ↑
21. Considering the uncertainty about reactor capacity, 1100 MW for large nuclear reactors and 350 MW for small modular reactors were used in the modelling. ↑
22. All data are in constant 2020 prices. ↑
23. Using the reduction potential from the Krüger and Tarach study, CO₂eq emissions in the Czech Republic will reach roughly 30m tons, which the TIMES model predicts between 2040 and 2050. ↑
24. For download on the SEEPIA website: <https://seepia.cz/novinka/studie-o-dopadech-fit-for-55-na-cr-dokoncena/> ↑
25. Transport emissions calculator <https://www.emisia.com/utilities/copert/>. ↑



Annex 3: Terms and Definitions

Abbreviation	Definition
Accounting Act	Act No. 563/1991 Coll, on accounting, as amended, in particular by Act No. 349/2023 Coll., amending certain laws in connection with the consolidation of public budgets
Act on Municipalities	Act No. 128/2000 Coll., on Municipalities (Municipal Order), which defines the basic rules for the organisation and functioning of municipalities, as amended
Act on Regions	Act No. 129/2000 Coll., on Regions (Regional Order), which defines the rules for the administration and organization of regions, as amended
AfEFF	Alliance for Emission-Free Future, see https://www.bezemisni.cz/
AFIR	Regulation (EU) 2023/1804 of the European Parliament and of the Council of the EU on 13 September 2023 on the deployment of alternative fuels infrastructure, and repealing Directive 2014/94/EU
ARI	Czech Infrastructure Association, see https://www.ceskainfrastruktura.cz/
Assignment	'Sustainable finance Policy Options,' REFORM/2021/OP/0006 Lot 1, TSIC-RoC-19846
Biodiversity	the variability among living organisms arising from all sources including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part and includes diversity within species, between species and of ecosystems
Car&Vans CO2 Regulation	Regulation (EU) 2023/851 of the European Parliament and of the Council of the EU 19 April 2023 amending Regulation (EU) 2019/631 as regards strengthening the CO ₂ emission performance standards for new passenger cars and new light commercial vehicles in line with the Union's increased climate ambition
CBA	Czech Banking Association, see https://cbaonline.cz/
CBAM	Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism
CCC CZ	Czech Chamber of Commerce, see https://www.komora.cz/en/
CEB	Council of Europe Development Bank, see https://coebank.org/en/
Central Government Survey	the stakeholder questionnaire survey focused on central government bodies in Czechia undertaken under the Assignment in March-April 2024
Circular Economy	an economic system whereby the value of products, materials and other resources in the economy are maintained for as long as possible, enhancing their efficient use in production and consumption, thereby reducing the environmental impact of their use, minimising waste, and the release of hazardous substances at all stages of their life cycle, including through the application of the waste hierarchy
Climate Benchmarks Regulation	Regulation (EU) 2019/2089 of the European Parliament and of the Council of the EU on 27 November 2019 amending Regulation (EU) 2016/1011 as regards



	EU Climate Transition Benchmarks, EU Paris-aligned Benchmarks, and sustainability-related disclosures for benchmarks, as amended
Climate Change Adaptation	the process of adjustment to actual and expected climate change and its impacts
Climate Delegated Act	Commission Delegated Regulation (EU) 2021/2139 of 4 June 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives, as amended
Climate Change Mitigation	the process of holding the increase in the global average temperature to well below 2 °C and pursuing efforts to limit it to 1,5 °C above pre-industrial levels, as laid down in the Paris Agreement
CNB	Czech National Bank, see https://www.cnb.cz/en/
Col CZ	Confederation of Industry of the Czech Republic, see https://www.spcr.cz/en
CoM	Covenant of Mayors, see https://eu-mayors.ec.europa.eu/en/home
Commission or EC	European Commission, see https://commission.europa.eu/index_en
Competency Law	Act No. 2/1969 Coll., on the establishment of ministries and other central bodies of the Czech Socialist Republic, as amended
Consultant or PwC	the company PRICEWATERHOUSECOOPERS EU SERVICES EESV, having its registered office at Culliganlaan 5, 1831 Machelen, Belgium, VAT No.: BE0872793825, acting through its subsidiary in Czechia PricewaterhouseCoopers Česká republika, s.r.o., having its registered office at Hvězdova 1734/2c, Nusle, 140 00 Prague, Czechia
Corporate GHG Protocol	The GHG Protocol Corporate Accounting and Reporting Standard, see https://ghgprotocol.org/corporate-standard
CRCF Regulation	Regulation of the European Parliament and of the Council establishing a Union certification framework for carbon removal currently being adopted at the EU level
CRD	Directive 2011/83/EU of the European Parliament and of the Council of the EU on 25 October 2011 on consumer rights, amending Council Directive 93/13/EEC and Directive 1999/44/EC of the European Parliament and of the Council and repealing Council Directive 85/577/EEC and Directive 97/7/EC of the European Parliament and of the Council, as amended
CRD VI	the review of the CRD currently being adopted at the EU level
CS3D	Directive European Parliament and of the Council on Corporate Sustainability Due Diligence and amending Directive (EU) 2019/1937 currently being adopted at the EU level
CSR	the acronym for Corporate Social Responsibility denoting a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders



CSRD	Directive (EU) 2022/2464 of the European Parliament and of the Council of 14 December 2022 amending Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC, and Directive 2013/34/EU, in regard to corporate sustainability reporting currently being adopted at the EU level
CTBs	EU Climate Transition Benchmarks introduced by the Climate Benchmarks Regulation
Czech CPP	Climate Protection Policy of the Czech Republic approved by the Cabinet of the Czech Republic on 22 March 2017, see https://www.mzp.cz/C1257458002F0DC7/cz/politika_ochrany_klimatu_2017/\$FILE/OEOK-POK-20170329.pdf
Czech NECP	the existing Czech National Energy and Climate Plan which was discussed and 'taken into account' by the Cabinet of the Czech Republic on 28 January 2019 and which was submitted to the EC on 30 January 2019, see https://energy.ec.europa.eu/system/files/2020-01/cs_final_necp_main_cs_0.pdf
Czech PoSF	the voluntary Czech Platform on Sustainable Finance established by the MoF in 2023
Czech Public Procurement Strategy	the National Procurement Strategy of the Czech Republic for the period 2024-2028 approved by the Cabinet of the Czech Republic on 21 February 2024, see https://mmr.gov.cz/getmedia/fd12c1a1-7b37-40fb-9a8f-1248ea12998a/NSVZ_STRATEGIE_tisk.pdf.aspx?ext=.pdf
Czech SEC	the State Energy Concept approved by the Cabinet of the Czech Republic on 28 May 2015, see https://www.mpo.cz/assets/dokumenty/52841/60959/636207/priloha006.pdf
Czech SIF	Czech Sustainable Investment Forum, see https://www.czechsif.org/
Deliverable 3	the deliverable under the Assignment titled 'Deliverable 3: Diagnostic report'
Deliverable 4	the deliverable under the Assignment titled 'Deliverable 4: Report on public policy options on sustainable finance, action plan and roadmap for implementation'
Deliverable 5	the deliverable under the Assignment titled 'Deliverable 5: Capacity building, knowledge sharing'
Diagnostic Report	this report on Deliverable 3 under the Assignment
Disclosures Delegated Act	Commission Delegated Regulation (EU) 2021/2178 of 6 July 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 29a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation
DNSH	the term 'do no significant harm' used in the EU Taxonomy to express the principle of 'do no significant harm' pursuant to Article 17 of the EU Taxonomy Regulation or levels of technical screening criteria (TSC) pursuant to Article 19 of the EU Taxonomy Regulation
EBA	European Banking Authority, see https://www.eba.europa.eu



EBRD	European Bank for Reconstruction and Development, see https://www.ebrd.com/home
EC or Commission	European Commission, see https://commission.europa.eu/index_en
NECP Update Assessment'	Commission Recommendation (EU) 2024/743 of 18 December 2023 on the draft updated integrated national energy and climate plan of Czechia covering the period 2021-2030 and on the consistency of Czechia's measures with the Union's climate-neutrality objective and with ensuring progress on adaptation, C(2023) 9616 final, as amended by Commission Recommendation (EU) 2024/743 of 23 February 2024 with regard to progress under Regulation (EU) 2018/842 in the draft updated integrated national energy and climate plan of Czechia covering the period 2021-2030
ECB	European Central Bank, see https://www.ecb.europa.eu/home/html/index.en.html
Ecodesign Regulation	Regulation of the European Parliament and of the Council establishing a framework for setting eco-design requirements for sustainable products and repealing Directive 2009/125/EC currently being adopted at the EU level
ecosystem	a dynamic complex of plant, animal, and micro-organism communities and their non-living environment interacting as a functional unit
EGD	Communication from the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Region on 11 December 2021 'The European Green Deal', COM/2019/640 final
EGD Industrial Plan	Communication from the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Region on 1 February 2023 'A Green Deal Industrial Plan for the Net-Zero Age', COM/2023/62 final
EEA	European Environment Agency, https://www.eea.europa.eu/en
EED	Directive (EU) 2023/1791 of the European Parliament and of the Council of the EU on 13 September 2023 on energy efficiency and amending Regulation (EU) 2023/955 (recast)
EIB	European Investment Bank, https://www.eib.org/en/index
EIOPA	European Insurance and Occupational Pensions Authority, see https://www.eiopa.europa.eu/index_en
Energy efficiency	the more efficient use of energy at all the stages of the energy chain from production to final consumption
Energy Governance Regulation	Regulation (EU) 2018/1999 of the European Parliament and of the Council of the EU on 11 December 2018 on the Governance of the Energy Union and Climate Action, as amended
environmentally sustainable investment	an investment in one or several economic activities that qualify as environmentally sustainable under the EU Taxonomy Regulation
EPBD	the review of the CRD 2010/31/EU of the European Parliament and of the Council of the EU on 19 May 2010 on the energy performance of buildings (recast) currently being adopted at the EU level



ERDF	European Regional Development Fund
ESA's	the collective designation of EBA, EIOPA and ESMA
ESAP	European Single Access Point, the single access point for public financial and sustainability-related information about EU companies and EU investment products currently being adopted at the EU level. see https://www.europarl.europa.eu/legislative-train/theme-an-economy-that-works-for-people/file-european-single-access-point
ESG	the acronym for Environmental, Social and Governance denoting standards for behaviour of organizations and performance of assets and projects in Environmental, Social and Governance areas incorporating sustainability in a measured manner as a guiding perspective on top of financial characteristics
ESG Investment Study	the study developed by Mott MacDonald and PwC in 2021 for the MoRD titled 'The EU Taxonomy in the Context of Investment Process in the Czech Republic and Accompanying Recommendations'
ESG Rating Provider Regulation	Regulation of the European Regulation and the Council on the transparency and integrity of Environmental, Social and Governance (ESG) rating activities, and amending Regulation (EU) 2019/2088 currently being adopted at the EU level
ESMA	European Securities and Markets Authority, see https://www.esma.europa.eu/
ESR	Commission Implementing Decision (EU) 2023/1319 of 28 June 2023 amending Implementing Decision (EU) 2020/2126 to revise Member States' annual emission allocations for the period from 2023 to 2030, as amended
ESRB	European Systemic Risk Board, see https://www.esrb.europa.eu/home/html/index.en.html
ESRS	the collective designation for the European sustainability reporting standards issued and to be issued in the future under the CSRD
EU or Union	European Union, see https://european-union.europa.eu/index_en
EU Charter	Charter of Fundamental Rights of the European Union (2000/C 364/01)
EU Environmental Objectives	the six environmental objectives contained in the EU Taxonomy Regulation, namely (a) climate change mitigation; (b) climate change adaptation; (c) the sustainable use and protection of water and marine resources; (d) the transition to a circular economy; (e) pollution prevention and control; and (f) the protection and restoration of biodiversity and ecosystems
EU ETS	EU Emissions Trading Scheme established by European Commission in 2025
EU ETS II Regulation	Directive (EU) 2023/959 of the European Parliament and of the Council of the EU on 10 May 2023 amending Directive 2003/87/EC establishing a system for greenhouse gas emission allowance trading within the Union and Decision (EU) 2015/1814 concerning the establishment and operation of a market stability reserve for the Union greenhouse gas emissions trading system
EUGB	European Green Bonds standard established by the EUGB Regulation
EUGB Regulation	Regulation (EU) 2023/2631 of the European Parliament and of the Council of the EU on 22 November 2023 on European Green Bonds and optional



	disclosures for bonds marketed as environmentally sustainable and for sustainability-linked bonds
European Climate Law	Regulation (EU) 2021/1119 of the European Parliament and of the Council of the EU on 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999
EU Sustainable Finance Strategy	Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on 7 July 2021 ‘Strategy for Financing the Transition to a Sustainable Economy’, COM/2021/390 final
EU Taxonomy	the classification system of sustainable economic activities and investments established by the EU Taxonomy Regulation
Market Practices Compendium	the study by the European Platform on Sustainable Finance titled ‘Sustainable Finance Compendium of Market Practices: How the EU’s Taxonomy and sustainable finance framework are helping financial and non-financial actors transition to net zero’ from January 2024
EU Taxonomy Handbook	the study titled ‘EU Taxonomy Handbook for Local Governments: What Is an Environmentally Sustainable Investment Project Pursuant to the EU Taxonomy?’ prepared as part of the ESG Investment Study
EU Taxonomy KPIs	the key performance indicators of shares of environmentally sustainable economic activities on operating and capital expenses and revenues as defined by Disclosures Delegated Act
EU Taxonomy Regulation	Regulation (EU) 2020/852 of the European Parliament and of the Council of the EU on 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088, as amended
EU PoSF	European Platform on Sustainable Finance established pursuant to Article 20 of the EU Taxonomy Regulation, see https://finance.ec.europa.eu/sustainable-finance/overview-sustainable-finance/platform-sustainable-finance_en
financial product	the financial product as defined in point (12) of Article 2 of Regulation of the European Parliament and of the Council of 27 November 2019 on sustainability-related disclosures in the financial services sector, as amended
Financial Sector Survey	the stakeholder questionnaire survey focused on financial institutions in Czechia undertaken under the Assignment in March-April 2024
Fintech CZ	Czech Fintech Association, see https://czechfintech.cz/
Fit for 55 Package	the set of groundbreaking proposals for revising and updating all relevant policy instruments and legislation regarding the EGD Net Zero target e, as well as introducing new initiatives to ensure additional GHG reductions by 2030 in line with the European Climate Law, i.e., at least 55% compared to 1990 levels, was then published in July 2021, see https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/delivering-european-green-deal/fit-55-delivering-proposals_en
FY	financial year



GAR	the acronym for Green Asset Ratio designating the proportion of a credit institution’s assets that finance and are invested in the EU Taxonomy-aligned economic activities as a proportion of the total covered assets
GBF	the Kunming-Montreal Global Biodiversity Framework adopted in Montreal in December 2022, see https://www.cbd.int/gbf
GCD	Directive of the European Parliament and of the Council on substantiation and communication of explicit environmental claims (Green Claims Directive) currently being adopted at the EU level
GCfSD	Government Council for Sustainable Development of the Czech Republic, see https://vlada.gov.cz/en/ppov/council-for-sustainable-development/the-government-council-for-sustainable-development-of-the-czech-republic--153075/#:~:text=the%20Czech%20Republic-.The%20Government%20Council%20for%20Sustainable%20Development%20of%20the%20Czech%20Republic,policy%20among%20central%20administrative%20authorities
General ESRS	Commission Delegated Regulation (EU) 2023/2772 supplementing Directive 2013/34/EU of the European Parliament and of the Council as regards sustainability reporting standards
GHG or greenhouse gas	a greenhouse gas listed in Annex I to Regulation (EU) No 525/2013 of the European Parliament and of the Council of 21 May 2013 on a mechanism for monitoring and reporting greenhouse gas emissions and for reporting other information at national and Union levels relevant to climate change and repealing Decision No 280/2004/EC, as amended
Good Practices Report	the report elaborated under Deliverable 2 of the Assignment
Greenwashing Directive	Directive (EU) 2024/825 of the European Parliament and of the Council of the EU on 28 February 2024 amending Directives 2005/29/EC and 2011/83/EU s regards empowering consumers for the green transition through better protection against unfair practices and through better information
IASB	International Accounting Standards Board, see https://www.ifrs.org/groups/international-accounting-standards-board/
ICMA	International Capital Markets Association, see https://www.icmagroup.org/
ICESCR	International Covenant on Economic, Social and Cultural Rights, see https://www.ohchr.org/en/instruments-mechanisms/instruments/international-covenant-economic-social-and-cultural-rights
IFIs	The collective designation for international financial institutions such as EIB, EBRD or the CEB
InvestEU Fund	the EU investment fund established by the Regulation (EU) 2021/523 of the European Parliament and of the Council of the EU on 24 March 2021 establishing the InvestEU Programme and amending Regulation (EU) 2015/1017
IRA	the United States Inflation Reduction Act of 2022, see https://www.energy.gov/lpo/inflation-reduction-act-2022#:~:text=The%20President's%20Inflation%20Reduction%20Act,energy%20manufacturing%2C%20and%20putting%20the



IRRD	Directive of the European Parliament and of the Council of the EU establishing a framework for the recovery and resolution of insurance and reinsurance undertakings and amending Directives 2002/47/EC, 2004/25/EC, 2009/138/EC, (EU) 2017/1132 and Regulations (EU) No 1094/2010 and (EU) No 648/2012 currently being adopted at the EU level
ISSB	International Sustainability Standards Board, see https://www.ifrs.org/groups/international-sustainability-standards-board/
ITS	EBA's Implementing Technical Standards on Pillar 3 from January 2022
IUF	Institute of Sustainable Finance, at the University of Economics in Prague
JTF	the special EU fund established by the Regulation (EU) 2021/1056 of the European Parliament and of the Council of the EU on 24 June 2021 establishing the Just Transition Fund
LMA	Loan Market Association, see https://www.lma.eu.com/
LULUCF	the designation for Land Use, Land Use Change and Forestry, a GHG gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use such as settlements and commercial uses, land-use change, and forestry activities
LULUCF Regulation	Regulation (EU) 2023/839 of the European Parliament and of the Council of the EU on 19 April 2023 amending Regulation (EU) 2018/841 in regards to the scope, simplifying the reporting and compliance rules, and setting out the targets of the Member States for 2030, and Regulation (EU) 2018/1999 in regards to improvement in monitoring, reporting, and tracking of progress and review, see https://eur-lex.europa.eu/eli/reg/2023/839/oj
Maritime FuelEU Aviation	Regulation (EU) 2023/1805 of the European Parliament and of the Council of 13 September 2023 on the use of renewable and low-carbon fuels in maritime transport, and amending Directive 2009/16/EC
Member States	the 27 member states of the EU
MERR	Regulation of the European Parliament and of the Council on methane emissions reduction in the energy sector and amending Regulation (EU) 2019/942 currently being adopted at the EU level
MFF	Multiannual Financial Framework, see https://www.europarl.europa.eu/factsheets/en/sheet/29/multiannual-financial-framework
MoA	Czech Ministry of Agriculture, see https://eagri.cz/public/portal/en
MoE	Czech Ministry of the Environment, see https://www.mzp.cz/en
MoF	Czech Ministry of Finance, see https://www.mfcr.cz/en/
Moj	Czech Ministry of Justice, see https://justice.cz/
MoIT	Czech Ministry of Industry and Trade, see https://www.mpo.cz/en/
MoLSA	Czech Ministry of Labour and Social Affairs, see https://www.mpsv.cz/web/en
MoRD	Czech Ministry of Regional Development, see https://mmr.gov.cz/en/homepage
MoT	Czech Ministry of Transport, see https://www.mdcr.cz/?lang=en-GB



MSS	minimum social safeguards pursuant to Article 18 of the EU Taxonomy Regulation
Natural Gas & Hydrogen Directive	Directive of the European Parliament and of the Council of the EU on common rules for the internal markets in renewable and natural gases and in hydrogen currently being adopted at the EU level
NDB	the Czech national promotional bank (National Development Bank), in Czech titled as ‘Národní rozvojová banka, a.s.’ see https://www.nrb.cz/
NECPs	National energy and climate plans developed under the EU legislation (Regulation 2018/1999), see https://vlada.gov.cz/cz/media-centrum/aktualne/vlada-schvalila-novy-energeticky-a-klimaticky-plan--pokracovat-bude-take-reforma-socialnich-sluzeb-209199/ ; the new NECP submitted to the government in July 2024 has not been approved by the government yet
NFRD	Directive 2014/95/EU of the European Parliament and of the Council of the EU on 22 October 2014 amending Directive 2013/34/EU in regard to disclosure of non-financial and diversity information by certain large undertakings and groups, as amended
NFRD Amendment to the Accounting Act	Act No. 349/2023 Coll., amending certain acts in connection with the consolidation of public budgets
NGEU	the post-COVID 19 plan of the EU titled ‘NextGenerationEU’, see https://next-generation.eu.europa.eu/index_en
NRP	the Czech National Recovery and Resilience Plan, see https://www.planobnovy.cz/
NNoHC CZ	National Network of Healthy Cities of the Czech Republic, see https://www.zdravamesta.cz/
NNoLAG CZ	National Network of Local Action Groups of the Czech Republic, see https://www.nsmas.cz/
NZIA	Regulation of the European Parliament and of the Council of the EU on establishing a framework of measures for strengthening Europe’s net-zero technology products manufacturing ecosystem (Net Zero Industry Act) currently being adopted at the EU level
OECD	Organisation for Economic Co-operation and Development, see https://www.oecd.org/
OECD MNEs	OECD Guidelines for Multinational Enterprises on Responsible Business Conduct, see https://www.oecd.org/investment/mne/
OoG	Office of the Government, see https://vlada.gov.cz/en/urad-vlady/
PABs	Paris-aligned Benchmarks introduced by the Climate Benchmarks Regulation
Paris Agreement	The Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC), adopted at the 21st Conference of the Parties to the UNFCCC (COP21) in Paris in December 2015, see https://unfccc.int/process-and-meetings/the-paris-agreement
PCGB	Paris Collaborative on Green Budgeting, see https://www.oecd.org/environment/green-



	budgeting/#:~:text=The%20OECD%20Paris%20Collaborative%20on,climate%20and%20other%20environmental%20goals.
Pollution	(a) the direct or indirect introduction of pollutants into the air, water, or land as a result of human activity; (b) in the context of the marine environment, pollution as defined in point 8 of Article 3 of Directive 2008/56/EC; (c) in the context of the water environment, pollution as defined in point 33 of Article 2 of Directive 2000/60/EC
Position Paper	the study titled 'Position Paper: Analysis of the State and Outlook for Adoption of Usability' prepared as part of the ESG Investment Study
PSE	Prague Stock Exchange, see https://www.pse.cz/en/
Public Policy Options Report	the report to be elaborated under Deliverable 4 under the Assignment
PVE	Photovoltaic energy
Real Economy Survey	the stakeholder questionnaire survey focused on businesses in Czechia, excluding financial institutions, undertaken under the Assignment in March-April 2024, see Chapter 3 of Annex I to this Report
RED	Directive (EU) 2023/2413 of the European Parliament and of the Council of 18 October 2023 amending Directive (EU) 2018/2001, Regulation (EU) 2018/1999 and Directive 98/70/EC in regard to the promotion of energy from renewable sources, and repealing Council Directive (EU) 2015/652
ReFuelEU Aviation	Regulation (EU) 2023/2405 of the European Parliament and of the Council of the EU on 18 October 2023 on ensuring a level playing field for sustainable air transport
RePowerEU	the special EU plan adopted following the global energy market disruption and invasion of Russia to Ukraine in May 2022, see https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/repowereu-affordable-secure-and-sustainable-energy-europe_en
R&I	Research and Innovation
Right to Repair Directive	Directive of the European Parliament and of the Council of the EU on common rules promoting the repair of goods and amending Regulation (EU) 2017/2394, Directives (EU) 2019/771 and (EU) 2020/1828 currently being adopted at the EU Level
RRF	the special EU instrument for implementing the NGEU established by the Regulation (EU) 2021/241 of the European Parliament and of the Council of 12 February 2021 establishing the Recovery and Resilience Facility
SBTi	Science-based Targets Initiative, see https://sciencebasedtargets.org/
SCF	Social Climate Fund, see https://climate.ec.europa.eu/eu-action/eu-emissions-trading-system-eu-ets/social-climate-fund_en
SDGs	the UN Sustainable Development Goals, see https://sdgs.un.org/goals
SECAP	Sustainable Energy and Climate Action Plan developed by municipalities under the CoM, see https://eu-mayors.ec.europa.eu/en/resources/reporting



Section 69	Section 69 of the MoF titled 'Sustainability Policies Section'
Governments Survey	the stakeholder questionnaire survey focused on regional and local governments in Czechia undertaken under the Assignment in March-April 2024,
SFDR	Regulation (EU) 2019/2088 of the European Parliament and of the Council of the EU on 27 November 2019 on sustainability-related disclosures in the financial services sector, as amended
SFDR RTS	The regulatory technical standards on the review of PAI and financial product disclosures in the SFDR Delegated Regulation currently being adopted, see https://www.esma.europa.eu/sites/default/files/2023-12/JC_2023_55_-_Final_Report_SFDR_Delegated_Regulation_amending_RTS.pdf
SME CZ	Association of Small and Medium-sized Enterprises of the Czech Republic, see https://amsp.cz/about-us/?lang=en
Sustainability Practices of Investment Firms and Asset Managers Regulation	Commission Delegated Regulation (EU) 2021/1253 of 21 April 2021 amending Delegated Regulation (EU) 2017/565 as regards the integration of sustainability factors, risks and preferences into certain organisational requirements and operating conditions for investment firms
Sustainable Capital Flows Report	the report of the EU PoSF titled 'Monitoring Capital Flows to Sustainable Investments – Intermediate Report' in early April 2024, see https://finance.ec.europa.eu/publications/platform-sustainable-finance-intermediate-report-monitoring-capital-flows-sustainable-investments_en
TCFD	Task Force on Climate Change-related Financial Disclosures, see https://www.fsb-tcfd.org
TFEU	Treaty on the Functioning of the European Union, see https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A12012E%2FTXT
TNFD	Task Force on Nature-Related Financial Disclosures, see https://tnfd.global/
TSC	the Technical Screening Criteria established under Article 19 of the EU Taxonomy Regulation
TSI	the EU programme titled 'Technical Support Instrument' established by the TSI Regulation
TSI Regulation	Regulation (EU) 2021/240 of the European Parliament and of the Council of 10 February 2021 establishing a Technical Support Instrument
UCPD	Unfair Commercial Practices Directive
UN	United Nations, see https://www.un.org/en/
UNFCCC	United Nations Framework Convention on Climate Change, see https://unfccc.int/
UNGPs	the UN Guiding Principles on Business and Human Rights, see https://www.ohchr.org/sites/default/files/documents/publications/guidingprinciple_sbusinessshr_en.pdf
UoTM CZ	Union of Towns and Municipalities of the Czech Republic, see https://www.smocr.cz/en
UTB	University of Tomáš Baťa, see https://www.utb.cz/



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WBCSD	World Business Council for Sustainable Development, see https://www.wbcsd.org/
WE	Wind energy
WRI	World Resources Institute, see https://www.wri.org/



Annex 4: Key findings from the surveys

As part of the Assignment, questionnaire surveys were carried out between February and April of 2024 to gain insight into the current awareness and readiness of the four stakeholder groups in Czechia regarding sustainable finance and ESG topics. The process and detailed results of the Surveys are presented in Annex for each stakeholder group as follows:

- Real Economy (sample size 103) covering private sector companies, including the companies with the State holdings State, unless exclusively owned by the State;
- Financial Sector (sample size 18) covering financial institutions, such as banks, leasing companies, insurance companies, pension companies and payment institutions, including the National Development Bank;
- Central Government (sample size 17) covering ministries and other central governmental bodies and selected key institutions and legal entities solely owned by the State; and
- Regional and Local Governments (sample size 19) covering regions, towns, and municipalities as territorial government bodies of Czechia.

Utilising responses provided by respondents; an in-depth analysis was conducted to assess the prevailing status of sustainable finance within each stakeholder group of the Surveys. A summary of the results is presented below.

General

The table reflects answers provided in four separate surveys: Real Economy, Financial Sector, Central Government, and Governments. The results particularly reflect bias in that those willing to answer and complete the questionnaire may have a greater interest in the issue at hand, which can skew certain metrics.

The information in some instances is supported by additional research and/or interviews.

Overall, the survey highlights the need for coordinated efforts from the government, businesses, and other stakeholders to overcome barriers such as a lack of knowledge and data, financial burdens, and uncertain legislative environment. This includes implementing supportive policies, improving access to funding, enhancing regulatory clarity, and increasing awareness and education about sustainable practices.

Real Economy

Sample size: 103.

Key stakeholders: large enterprises, small and medium enterprises, state-owned companies, business associations

Large enterprises are actively preparing for the transition to a low-carbon and sustainable economy, facing significant challenges such as increased administration, data availability issues, and complex unclear legislation (their viewpoint). Small businesses often struggle due to limited human and financial resources. Differences emerge between state-owned and private enterprises; state-owned enterprises strive to comply with regulations but are hindered by staffing shortages and administrative complexities, whereas the impact on private enterprises varies significantly with size.

Financial Sector

Sample size: 18.



Key stakeholders: banks, leasing companies, pension firms, payment institutions, fintech companies, associations, National Development Bank, Czech National Bank, Prague Stock Exchange, European Investment Banks, European Bank for Reconstruction and Development

The survey's information is supported by findings from a workshop with the Czech Banking Association.

There are prospects in green finance, but regulatory complexities and data availability issues are substantial concerns. Banks and leasing companies struggle with EU Taxonomy compliance criteria, while pension firms face frequent regulatory changes and reporting demands. National strategies and better data access are urgently needed to support sustainable finance effectively.

Central Government

Sample size: 17.

Key stakeholders: Ministries, central state authorities and institutions

The survey's information is supported by findings from individual meetings with the key ministries and institutions.

Sustainability integration within Czech government entities shows mixed progress, with significant challenges including gaps in specialized staff, financial constraints, and data readiness, varying levels of engagement in adopting sustainable financial products and widespread underestimation of the investment needs for meeting EU targets. A lack of comprehensive strategies and coordination across government bodies hinders broader adoption of sustainability measures.

Regional and Local Governments

Sample size: 19.

Key stakeholders: regions, municipalities, cities, local governments, associations

The landscape shows an evident intent to integrate sustainability, but actual implementation varies widely and is often hindered by structural and systemic challenges. While some local governments are pioneers of sustainability through their demonstration of strong governance and innovative practices, many are still in the initial stages of integrating these principles into their operations.

To achieve widespread and effective integration of sustainability, significant efforts are needed to standardize practices across all levels of regional and local governments. This includes the preparation of clear guidelines, improved governance structures, strategic financial planning, and robust educational programmes to build capacity. Additionally, fostering a culture of sustainability within government operations and broader community engagement can serve as a catalyst for deeper systemic change.



Sustainability Principles [Click here to enter text.](#)Awareness

Awareness of the sustainability matters is limited but growing across all sectors. Institutions advocate for clearer policies, streamlined data access and a stronger commitment to sustainability goals from the government. Overall, there is a consensus that greater state involvement and clearer regulatory frameworks are necessary to facilitate an effective transition to a low-carbon economy.

The institutions are calling for starting with the preparation of concrete national documents in parallel with the economic strategy and sustainability finance strategy with detailed action plans.

Real Economy

- A cautious yet growing commitment among companies to integrate sustainability into their management structures.
- Approximately three-fourths of respondents have appointed sustainability leads with a slight majority having designated managers.
- A majority considers sustainability criteria when setting their key performance indicators (KPIs).
- Only around a third of respondents have implemented transformational climate or sustainability plans, though few are willing to publicly share them.
- Stakeholder engagement in value chains remains low.

Financial Sector

- A majority has a designated sustainability lead, and more than half consider sustainability in setting KPIs.
- The readiness of companies to apply EU regulations varies, with many yet to fully embrace the scope of applicable sustainable finance frameworks.
- While regulations such as the SFDR and the MiFID II amendment are well-received and prepared for, there is a notable lack of readiness for other regulations and directives, specifically EU Taxonomy, CSRD and the EU directive on consumer empowerment (and greenwashing) for the green transition.
- There is an urgent need for national strategies and frameworks including the economic strategy and sustainable finance strategy.

Central Government



- Only a minority of entities have units dedicated to developing sustainability standards or projects resulting in a minimal integration of sustainable financing processes into the organization's activities.
- Most entities have set sustainability goals focused on reducing emissions and energy consumption.
- There are various ongoing projects and initiatives, including the NEKP and TSI projects. However, these activities often lack alignment and consistency with one another.

Governments

- The survey reveals a significant integration gap in sustainability within regional and local governments with almost majority lacking dedicated personnel or departments.
- A notable majority have some sustainability targets, primarily aimed at reducing emissions and energy consumption, but they have yet to establish a structured governance for sustainability initiatives.
- Achieving the sustainability goals is often hampered by resource constraints and bureaucratic processes.

Opportunities, Risks and Trade Offs

The need for clearer policies and robust support systems is critical to helping institutions navigate sustainable practices effectively. There is a growing recognition of sustainability as integral to business strategy, requiring targeted interventions from government and industry leaders, including educational programs and financial incentives. Administrative burdens coupled with a lack of support programs hinders the development of sustainable finance products, emphasizing the need for improved data access, regulatory clarity, and awareness about sustainable financing. Respondents call for clearer policies, reduced bureaucracy, better communication, and financial incentives to support sustainable technologies and implementation.

Real Economy

- Regulatory requirements and the identification of growth opportunities are cited as primary reasons for considering sustainability issues.
- Opportunities highlighted in the survey include reputational benefits, enhanced social perception, improved competitiveness, better financing conditions, sustainability in the industry and reduced environmental impact.
- The EU Taxonomy influences around a half of the businesses. This is viewed by some as an opportunity and by others as a detriment due to factors like rising energy costs.



- The questionnaire identifies the lack of state support as the most prevalent barrier, characterized by an absence of clearly defined policies, priorities, and regulatory environments.
- A major challenge is the bureaucratic hurdles and financial constraints faced by companies aiming to align with sustainability regulations and reporting standards.
- Another key issue is the ambiguity and constant evolution of EU directives (especially the EU Taxonomy, CSRD, and SFDR).
- Clear legal frameworks and adequate knowledge are additional barriers to effective sustainability governance and stakeholder engagement.

Financial Sector

- There is a clear commitment to sustainability, reflected in ongoing efforts to integrate it into management practices and reporting standards.
- All respondents recognize opportunities in facilitating decarbonization, financing transitional projects and expanding client bases.
- For commercial banks, the transition to a low-carbon economy opens doors to facilitate and advise on the decarbonization of the Czech economy.
- Leasing companies foresee opportunities in embracing environmentally friendly assets by avoiding financial penalties.
- Pension companies anticipate opportunities in standardizing sustainability practices, positioning themselves competitively in the market.
- Over half are engaged in external consultancy services for sustainable financial products.
- Interest in revising capital adequacy requirements for sustainable loans is high, and many companies plan to offer preferential financing conditions for sustainable loans/investments.
- Less than a third of companies plan to issue green bonds, citing high costs and regulatory complexities, as well as the absence of unified standards for green financial products.
- The institutions pose increasing restrictions in sectors such as agriculture, forestry, mining, manufacturing, and utilities.
- The commercial banks believe that there should be a larger focus on transitions finance.
- Institutions are aware of threats such as stranded assets, regulatory complexities, strained client relationships, and increased financial costs. Pension companies are concerned about regulatory



burdens, while all sectors fear decreased competitiveness and potential industry exclusion from financing due to sustainability criteria.

- Leasing companies face specific challenges such as long technology amortization and the absence of subsidy programmes that can be used with their financial products.
- Ambiguous guidance and a lack of coordination from the government contribute to obstacles in effective sustainability management.
- The banks see a need for a centralised institutionalized team/platform dealing with sustainable finance.
- The commercial banks would appreciate a larger regulatory activity from the ČNB side, to serve a supporting role to the financial institutions. Especially in regards of helping with the pressure posed by ECB and EBA.
- The ČNB is aware of sustainable finance but from its role as a regulatory body overseeing the financial market. While there is some knowledge within the organization, there is not a dedicated expertise or section specifically focused on sustainable finance with a limited willingness to change the bank's current role in sustainable finance ecosystem.
- The National Development Bank expressed interest in becoming an issuer of sustainable bonds and similar sustainable finance tools.

Central Government

- There is a broad discrepancy in sustainability integration within core operations and a lack of coordination across various governmental bodies. While a little over half of the entities have adopted sustainability measures in procurement, obstacles such as financial limitations, market inadequacies, and complex criteria continue to diminish broader adoption.
- Only a few institutions confirmed the use of sustainable financial products, while a larger number had not engaged with these practices, highlighting a significant divide in their acceptance and implementation.
- Energy efficiency is widely recognized as one of the largest opportunities for sustainability, but notable concerns prevail. Institutions express concerns regarding a lack of understanding of sustainability principles, insufficient support, high material costs and the financial burden of large-scale infrastructural changes. The limited perceived effectiveness of ongoing energy efficiency reconstructions, the absence of procurement goals and pending new national standards are limiting the wider adoption of sustainability goals.
- Constraints related to resource availability, shortage of skilled labour, and potential social equity issues, including regional inequalities and adverse impacts on low-income groups, are viewed as significant obstacles. Further obstacles include the strict adherence to certain laws, ongoing internal deliberations, budgetary constraints that favour conventional State budget financing and a lack of alignment with their operational strategies hinders the use of sustainable financing products and tools.



Governments

- The opportunities are recognized particularly in energy efficiency improvements to reduce operational costs and emissions from local heating and transportation. Modernizing infrastructure, such as buildings and public transport fleets, stands out as another significant opportunity.
- Half of the respondents use or intend to use financial products that take sustainability into account.
- The majority of respondents do not have an estimate of the cost of fulfilling the Fit for 55 Package by 2030.
- The adoption of any standards of purchasing in terms of sustainability is completely lacking.
- Financial burdens, legislative inconsistencies, administrative complexities, technological gaps, and public resistance to change complicate the implementation of sustainable practices.

Incentives

There is a strong call for improved government support through better grant policies, tax incentives and clearer legislative frameworks. Enhanced governmental communication and transparency are essential to support sustainable development initiatives effectively. Financial institutions propose appointing a coordinator, proactive supervisory roles, support capacities, enhanced education initiatives and long-term implementation plans with innovative financing mechanisms. Strengthening inter-ministerial collaboration, improving central coordination, and providing clear guidelines are necessary to achieve alignment with strategic sustainability goals, simplified processes, and an environment conducive to sustainable investments.

Real Economy

- Firms perceive the support from State investments or technical assistance insufficient. They request enhanced governmental communication and transparency.
- Firms call for simplification of processes, reduction of bureaucratic hurdles and expectations of improvements in grant policies, tax incentives and clearer legislative frameworks favouring sustainability.

Financial Sector

- Almost three-fourths offer “green products” or sustainability-linked products such as preferential investment loans, advantageous mortgages and financing for electric vehicles and sustainable projects. While almost a half of respondents view their current offerings as sufficient, few feel the need for more diverse loan instruments and subsidies. Barriers to further development include administrative burdens, unclear legislation, lack of support programmes and low client knowledge of ESG issues.



- Less than a half believe their products comply with EU Taxonomy parameters, aided by tools like internal resources, EIB's Green Eligibility Checker and the EU Taxonomy Compass.
- Financial Institutions ('FIs') express dissatisfaction with the Government's support for decarbonization and environmental preservation. They cite the absence of a cohesive strategy and actionable plans, as well as a lack of sector-specific decarbonization strategies, centralised coordination and accessible ESG databases.
- Guarantee programmes are limited, especially for transitioning to greener alternatives in construction and transport, and this leads to market failure scenarios.
- Many of the sustainability-related incentives come from European institutions rather than from the Czech state or the ČNB, for example the EIB Green Intermediated Finance.

Central Government

- There is a critical view of current central government involvement in sustainability initiatives, with around a half of the respondents deeming it insufficient. The lack of coordination and inadequate funding emerge as central perceived concerns.
- Some of the Ministries are worried about the missing funding to achieve Czech decarbonization plans and see an opportunity in private finance. However, there are challenges like defining technical parameters and verifying private sector compliance with potential sustainable financial tools.
- Administrative hurdles and resource constraints complicate efforts, especially with co-financed projects.

Governments

- Respondents perceive significant threats in transitioning to a low-carbon economy, primarily due to financial constraints, such as insufficient funding and the potential economic impact on municipalities and citizens.
- A notable share of three quarters of respondents finds the current State administration's involvement insufficient.

ESG Data and Information

The demand for ESG data from companies is growing as investors seek to improve decision-making, enhance comparability, and conduct effective due diligence. The move towards standardized reporting practices underscores the importance of transparency and consistency in sustainability disclosures, enhancing credibility and benchmarking.



Requirements for concerted efforts ensure that sustainability initiatives are adequately supported by both internal and external data resources, enabling more transparent and accountable sustainability reporting.

By prioritizing the enhancement of ESG data quality, accessibility and utilization, financial institutions can play a pivotal role in driving the transition towards a more sustainable and inclusive economy. However, the State will need to stand up to the challenge and provide the needed data via free public access in the quality and granularity required by the EU sustainable finance framework. The existence of a key central clearinghouse for sustainable finance, one web platform and secretariat, is vital.

Real Economy

- The adoption of international non-financial reporting standards is becoming increasingly vital.
- Over a third of respondents who report or are preparing to report use international frameworks such as GRI or ESRS. However, less than half feel prepared for CSRD compliance.
- Many firms perceive a conflict between the investment required for detailed sustainability reporting and the resources needed for customer-focused operations.
- Many face challenges related to the lack of access to technology and data.
- A survey¹ conducted by the AMSP highlights that two-thirds of SMEs in Czechia are uncertain about ESG, but a majority express interest, particularly in social aspects. Despite the growing demand for ESG data, many SMEs struggle with setting measurable ESG goals and face challenges in their implementation due to unclear return on investment and limited resources.

Financial Sector

- Two thirds either report or plan to report sustainability performance using international sustainability reporting standards.
- While ESG ratings/scores are prevalent within organizations, there is a diverse approach to their utilization. Respondents mentioned various rating agencies and internal models for ESG analysis, highlighting the importance of data reliability and comparability.
- Respondents highlighted significant challenges related to data quality and availability, including the absence of public registries for ESG data, lack of standardized procedures and varying reliability of ESG ratings. These gaps hinder effective decision-making and strategic planning.
- FIs face additional challenges in accessing data for assessing client portfolios' sustainability.
- Commercial banks are forced to report ESG indicators to the EU regulators and parental companies. However, due to the lack of primary data, they are worried about the potential greenwashing, penalization, and the transfer of costs to the price of financing on the Czech market.

¹ See https://amsp.cz/wp-content/uploads/2023/06/Ipsos-pro-AMSP_ESG-a-MSP.pdf



- Special concerns are raised among SMES as banks are afraid that they do not understand sustainability topics enough, and, as a result, they do not collect relevant data points.
- The banks emphasise the need for a central data hub with Scope 1, 2, 3 emissions at the transaction level with EPC labels as a minimum.

Central Government

- Most institutions are not monitoring essential ESG data. The main reason is the shortage of dedicated staff and insufficient knowledge on this issue, but another reason is the often-mentioned perceived irrelevance of data measurement for those institutions caused by the fact that these institutions do not manage any enterprises.
- The lack of data readiness poses substantial challenges to managing and reporting on sustainability and reflects reliance on EU regulations for most ESG standards.

Governments

- Most governments do not monitor essential ESG data.
- A survey² conducted by the UoTM CZ revealed that municipalities consider water management and the health and quality of life of residents to be important topics, while sustainable infrastructure, high-quality education, poverty, gender equality, responsible manufacturing and consumption and emissions reduction are not among the priority topics.
- The main obstacles to accessing sufficient data and information for the usage of the EU Taxonomy are administrative burdens and lack of staff, time, and financial resources.

Education and Capacity Building

Tailored education and training initiatives are essential to foster greater awareness. Despite progress, significant obstacles remain. Challenges include the lack of readily available information, the rapidly evolving EU legislative landscape and the complexity of sustainability regulations. Addressing these barriers requires proactive measures such as providing clearer guidance, enhancing access to information sources, and fostering ongoing learning and adaptation through continuous training programmes and knowledge sharing platforms. The institutionalization of the Sustainable Financing Platform is a necessary condition and priority for further development, including working groups.

Real Economy

- The majority engages their stakeholders primarily through activities such as staff training and volunteering.

² See https://sustainabledevelopment.un.org/content/documents/279492021_VNR_Report_Czech_Republic.pdf.



- The most cited obstacles to education and capacity building include time constraints, complicated regulatory environments with sometimes unclear criteria for compliance, financial barriers, and the lack of qualified experts.

Financial Sector

- While more than half of respondents indicate employee interest in ESG issues, engagement levels vary across departments. Departments where ESG is integrated into the agenda, such as risk management or sustainability teams, tend to display higher interest levels.
- Institutions face gaps in knowledge regarding regulations, especially concerning the EU Taxonomy. Despite efforts to address these issues through training programmes, rapid regulatory changes and unclear implementation timelines persist.
- Commercial banks emphasize the role of professional associations in facilitating transformation through communication, education, research, and positive lobbying efforts in order to overcome barriers such as poorly defined priorities, fragmentation of competences among ministries and lack of standardization in assessing sustainable investments. Furthermore, they call for the instantiation of the Sustainable Finance Platform.

Central Government

- Currently, there are no coordinated activities in terms of supporting education and capacity building in sustainable financing at the government level. A significant part lacks structured programmes, leading to gaps in readiness to meet sustainability goals and utilize EU financing tools effectively. This is worsened by budgetary constraints and outdated internal processes.
- The lack of detailed knowledge and awareness about decarbonization processes and available sustainable technologies is highlighted as the most pressing barrier. There is a recognized need for more robust expertise, especially within the industrial sector and budgeting sections.

Governments

- The most significant challenge highlighted by respondents was the lack of comprehensive and easily accessible information and methodologies necessary to educate.
- Other barriers are insufficient willingness among personnel, coupled with a shortage of staff dedicated to sustainability efforts.



Annex 5: Meetings conducted during development of the report

- Presentations at the sessions of both parts of the MoF Platform on Sustainable Finance (Central Government Section and Private Sector and Governments Section) held on the MoF premises in Cihelná Street, Prague 1, namely:
 - Second session held on 7 December 2023 where the TSI Project was introduced and discussed; and
 - Third session held on 19 February 2024 where the Good Practice Report (Deliverable of the TSI Project) was presented, and its results discussed.
- Four half-day awareness and alignment workshops on sustainable finance and ESG, held on the MoF premises in Cihelná Street, Prague 1 and organized for the following target stakeholder groups:
 - MoF staff on 1 December 2023;
 - Central government bodies on 17 January 2024;
 - Real economy on 20 February 2024; and
 - Regional and local governments on 26 March 2024.
- Three hybrid consultation workshops with ESG commissions of the major financial sector associations in Czechia, namely:
 - Czech Banking Association (1.5 hour) held on the PwC premises in Hvezdova Street, Prague 4 on 29 January 2024;
 - Czech Leasing and Financial Association (1 hour) held on the premises of the association in Italská Street, Prague 2 on 29 February 2024; and
 - Czech Insurance Association (1 hour) held on the premises of the association in Milevska Street, Prague 4 on 15 March 2024.
- Structured 2-hour meetings with 11 central government bodies and key publicly owned national banks, namely:
 - Czech National Bank ('**CNB**') on the premises of the bank in Na Prikope Street, Prague 1 on 19 December 2023 (face-to-face);
 - Office of Government ('**OoG**') on 21 December 2023 (online);
 - Ministry of Environment ('**MoE**') on the premises of the ministry in Vrsovicka Street, Prague 10 on 3 January 2024 (face-to-face);
 - National Development Bank ('**NDB**') on the premises of the bank in Premyslovska Street, Prague 3 on 9 January 2024 (face-to-face);
 - Ministry of Transport ('**MoT**') on the premises of the ministry in Ludvíka Svobody Waterfront, Prague 1 on 10 January 2024 (face-to-face)³;
 - Ministry of Justice ('**MoI**') on the premises of the ministry in Vysehradská Street, Prague 2 on 10 January 2024 (face-to-face);
 - Ministry of Finance ('**MoF**') on the premises of the ministry in Letenska Street, Prague 1 on 19 January 2024 (face-to-face);

³ This meeting was also attended by the representatives of Railways Administration and State Fund of Transport Infrastructure.



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- Ministry of Regional Development (**'MoRD'**) on the premises of the ministry in Old Town Square, Prague 1 on 15 January 2024 (face-to-face);
 - Ministry of Agriculture (**'MoA'**) on the premises of the ministry in Tesnov, Prague 1, on 31 January 2024 (face-to-face);
 - Ministry of Labour and Social Affairs (**'MoLSA'**) on the premises of the ministry in Na Poricnim Pravu Street on 6 February 2024 (face-to-face); and
 - Ministry of Industry and Trade (**'MoIT'**) on the premises of the ministry in Na Frantisku Street, Prague 1 on 9 February 2024.
- Other face-to-face meetings, video conferences, calls with other relevant stakeholders, namely:
- European Investment Bank (**'EIB'**);
 - European Bank for Reconstruction and Development (**'EBRD'**);
 - Prague Stock Exchange (**'PSE'**);
 - Union of Towns and Municipalities of the Czech Republic (**'UoTM CZ'**);
 - National Network of Healthy Cities of the Czech Republic (**'NNoHC CZ'**);
 - National Network of Local Action Groups of the Czech Republic (**'NNoLAG CZ'**);
 - Czech Chamber of Commerce (**'CCC CZ'**);
 - Czech Fintech Association (**'Fintech CZ'**);
 - Confederation of Industry CZ (**'CoI CZ'**);
 - Alliance for Emission Free-Future (**'AfeFF'**);
 - Czech Infrastructure Association (**'ARI'**); and
 - Association of Small and Medium-sized Enterprises of the Czech Republic (**'SME CZ'**).

